Scientific research and development

Chapter 9

Science in Canada 9.1

The development of Canada's natural resources and industry has involved the federal government in scientific activities since the establishment of Canada in 1867. These activities have concerned themselves with two principal areas of investigation: the natural sciences and the human sciences.

Natural sciences 1976-77 9.1.1

The natural sciences include such disciplines as biology, chemistry, physics, astronomy, geology and oceanography. Data are collected on the expenditures on, and manpower devoted to, research and development (R&D) and related scientific activities (RSA) in these sciences. Although research and development is the central element, related scientific activities precede, complement and extend research and development work. Included in related scientific activities are scientific data collection, scientific information testing and standardization, feasibility studies and educational support.

Federal government expenditures on activities in the natural sciences were expected to reach $1,290.6 million in 1976-77, an increase of 10% over 1975-76, and representing 3.4% of the total 1976-77 budget. R&D accounted for 72% of this of which 56% was for intramural work (i.e. work done in federal establishments and laboratories). RSA expenditures for the same year were estimated at $340.4 million. Of this sum, scientific data collection represented 55%, scientific information 20%, testing and standardization 12%, feasibility studies 9% and education support 4%.

Three sectors of the federal government were expected to account for approximately half of the natural sciences expenditures for 1976-77: Fisheries and the Environment, $304.1 million; National Research Council, $235.6 million; and Agriculture, $121.1 million.

Federal support of human sciences 9.1.2

The term human sciences encompasses the disciplines generally referred to as the social sciences and humanities (excluding the performing arts). The human sciences include all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting them as well as the applied social science fields (e.g. anthropology, economics, human geography, business administration, communications, criminology and industrial relations).

Federal government expenditures on activities in the human sciences were expected to reach $433.7 million in 1976-77 continuing the average increase of 21% a year since 1970-71. R&D accounted for $122.7 million of this sum and RSA $310.9 million. It was anticipated that the federal government would perform 75% of the scientific activities. Universities and non-profit institutions would receive 12% of total expenditures, foreign performers 7%, business enterprises 4%, provincial and municipal governments 1% and other Canadian performers 1%.

Three sectors of the federal government were expected to account for approximately half of the human sciences expenditures for 1976-77: Statistics Canada, $174.7 million; Canada Council, $32.4 million; and National Health and Welfare, $24.8 million. Human sciences expenditures are 1.1% of the total federal budget (1.2% in 1975-76).